

CLAIMS

1. An image forming apparatus having a first image formation mode for forming an image on an image bearing member by using developer under a first predetermined image forming condition and a second image formation mode for forming an image on an image bearing member by using developer under a second image forming condition which is different from the first predetermined image forming condition and is set so that an amount of consumption of developer with respect to an identical image in the second image formation mode is smaller than that in the first image formation mode, said apparatus comprising:
 - 15 storing means for storing information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member, and control means for changing the second image forming condition in the second image formation mode depending on an amount of usage of the image bearing member and information stored in said storing means.
2. An apparatus according to Claim 1, wherein
25 said image forming apparatus further comprises discrimination means for discriminating an image to be formed, said discrimination means changes the second

image forming condition depending on an amount of usage of the image bearing member, information stored in said storing means, and a result of discrimination by said discrimination means.

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3. An apparatus according to Claim 2, wherein said discrimination means is means for discriminating a size of a concentrated pixel area and changes the second image forming condition depending on whether 10 the concentrated pixel area is larger or smaller than a concentrated pixel pattern having a predetermined size.

4. An apparatus according to any one of Claims 1
15 - 3, wherein said storing means further has a second storing area for storing a plurality of levels of threshold information, and said control means changes the second image forming condition depending on information for setting the second image forming
20 condition corresponding to a plurality of levels of an amount of usage of the image bearing member when an amount of usage of the image bearing member reaches a predetermined threshold information.

25 5. An apparatus according to any one of Claims 1 - 4, wherein said image forming apparatus further comprises exposure means for exposing the image

bearing member under an exposure operation condition on the basis of image information.

6. An apparatus according to Claim 5, wherein
5 the exposure operation condition is an exposure time of said exposure means.

7. An apparatus according to Claim 5, wherein the exposure operation condition is an exposure time 10 of said exposure means on the basis of a sensitivity characteristic of the image bearing member.

8. An apparatus according to any one of Claims 1 - 7, wherein the information for setting the second 15 image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for determinating the second image forming condition.

20 9. An apparatus according to Claim 4, wherein the apparatus further comprising exposure means for exposing the image bearing member under an exposure operation condition on the basis of image information, and the information for setting the second image 25 forming condition corresponding to the plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the

exposure means.

10. An apparatus according to Claim 3, wherein
said control means selects the concentrated pixel
5 pattern having a predetermined size on the basis of
the information for setting the second image forming
condition corresponding to the plurality of levels of
an amount of usage of the image bearing member.

10 11. An apparatus according to any one of Claims 1
- 10, wherein the image bearing member and said
storing means are integrally supported to form a
cartridge which is detachably mountable to the image
forming apparatus.

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12. A cartridge for being detachably mountable to
an image forming apparatus having a first image
formation mode for forming an image on an image
bearing member by using developer under a first
20 predetermined image forming condition and a second
image formation mode for forming an image on an image
bearing member by using developer under a second image
formation condition which is different from the first
predetermined image forming condition and is set so
25 that an amount of consumption of developer with
respect to an identical image in the second image
formation mode is smaller than that in the first image

formation mode, said cartridge comprising:

the image bearing member, and
storing means for storing information on the
cartridge, said storing means having a first storing
5 area for storing information for setting the second
image forming condition corresponding to a plurality
of levels of an amount of usage of the image bearing
member in the second image formation mode.

10 13. A cartridge according to any one of Claim 12,
wherein said storing means further has a second
storing area for storing a plurality of level of
threshold information with respect to an amount of
usage of the image bearing member.

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14. A cartridge according to Claim 12 or 13,
wherein said image forming apparatus further comprises
exposure means for exposing the image bearing member
and the second image forming condition is an exposure
20 operation condition of said exposure means.

15. A cartridge according to Claim 14, wherein
the exposure operation condition is an exposure time
of said exposure means.

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16. A cartridge according to Claim 14, wherein
the exposure operation condition is an exposure time

of said exposure means on the basis of a sensitivity characteristic of the image bearing member.

17. A cartridge according to any one of Claims 12
5 - 16, wherein the information for setting the second image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for determinating the second image forming condition.

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18. A cartridge according to Claim 12 or 13,
wherein the image forming apparatus further comprising exposure means for exposing the image bearing member under an exposure operation condition on the basis of 15 image information, and the information for setting the second image forming condition corresponding to the plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the exposure means.

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19. A storing device to be mounted to a cartridge for being detachably mountable to an image forming apparatus including an image bearing member and having a first image formation mode for forming an image on 25 an image bearing member by using developer under a first predetermined image forming condition and a second image formation mode for forming an image on an

image bearing member by using developer under a second image forming condition which is different from the first predetermined image forming condition and is set so that an amount of consumption of developer with respect to an identical image in the second image formation mode is smaller than that in the first image formation mode, said storing device having:

- a first storing area for storing information for setting the second image forming condition
- 10 corresponding to a plurality of levels of an amount of usage of the image bearing member in the second image formation mode.

20. A device according to any one of Claim 19,
15 wherein said storing device further has a second storing area for storing a plurality of level of threshold information with respect to an amount of usage of the image bearing member.

20 21. A device according to Claim 19 or 20, wherein
said image forming apparatus further comprises
exposure device for exposing the image bearing member
and the second image forming condition is information
on an exposure operation condition of said exposure
25 device.

22. A device according to Claim 21, wherein the

exposure operation condition is an exposure time of said exposure device.

23. A device according to Claim 21, wherein the
5 exposure operation condition is an exposure time of said exposure device on the basis of a sensitivity characteristic of the image bearing member.

24. A device according to any one of Claims 19 -
10 23, wherein the information for setting the second image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for determinating the second image forming condition.

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25. A device according to Claim 19 or 20, wherein the image forming apparatus further comprising exposure means for exposing the image bearing member under an exposure operation condition on the basis of 20 image information, and the information for setting the second image forming condition corresponding to the plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the exposure device.

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26. A storing device to be mounted to a cartridge for being detachably mountable to an image forming

apparatus including an image bearing member and having
a first image formation mode for forming an image on
an image bearing member by using developer under a
first predetermined image forming condition and a
5 second image formation mode for forming an image on an
image bearing member by using developer under a second
image forming condition which is different from the
first predetermined image forming condition and are
set so that an amount of consumption of developer with
10 respect to an identical image in the second image
formation mode is smaller than that in the first image
formation mode, said storing device having:

a first storing area for storing information
for setting the second image forming condition
15 corresponding to an amount of usage of the image
bearing member,

wherein the information for setting the
second image forming condition corresponding to an
amount of usage of the image bearing member is
20 information which is used in the second image
formation mode but is not used in the first image
formation mode.

27. A device according to any one of Claim 26,
25 wherein said storing device further has a second
storing area for storing a plurality of level of
threshold information with respect to an amount of

usage of the image bearing member.

28. A device according to Claim 26 or 27, wherein
said image forming apparatus further comprises
5 exposure device for exposing the image bearing member
and the second image forming condition is information
on an exposure operation condition of said exposure
device.

10 29. A device according to Claim 28, wherein the
exposure operation condition is an exposure time of
said exposure device.

15 30. A device according to Claim 28, wherein the
exposure operation condition is an exposure time of
said exposure device on the basis of a sensitivity
characteristic of the image bearing member.

20 31. A device according to any one of Claims 26 -
30, wherein the information for setting the second
image forming condition corresponding to a plurality
of levels of an amount of the image bearing member is
designation information for determining the second
image forming condition.

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32. A device according to Claim 26 or 27, wherein
the image forming apparatus further comprising

exposure means for exposing the image bearing member under an exposure operation condition on the basis of image information, and the information for setting the second image forming condition corresponding to the
5 plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the exposure device.

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